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ENGINEERING AND INDUSTRIAL RESEARCH STATION

Quarterly Progress Report No. 17

NAS-8-11334

RESEARCH STUDY FOR DETERMINATION OF LIQUID SURFACE PROFILE

IN A CRYOGENIC TANK DURING GAS INJECTION

June 18, 1968 - September 17, 1968

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Period Covered: June 18, 1968 - September 17, 1968

AUTHORS:

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INTRODUCTION

This is the seventeenth Quarterly Progress Report for NAS8-11334 RESEARCH STUDY FOR DETERMINATION OF LIQUID SURFACE PROFILE IN A CRYOGENIC TANK DURING GAS INJECTION. The period covered is June 18, 1968 to September 17, 1968.

ANALYSIS OF PROGRESS

Very little progress of a tangible nature was accomplished this quarter. However, much ground work was completed which should provide a basis for concrete results during the next quarter.

A rather extensive modification to the equipment was required to prepare for the investigation of the next test configuration. This modification has been completed and initial data have been obtained. These data are too incomplete for reporting at this time.

Revision of the computer programs from data analysis to correlation presentation is in progress. This is directed toward converting the correlations given in the Fourth Annual Report into presentations which will be of use to the practicing engineer in designing a system which will evacuate entrapped liquid from a piping configuration. Programming is essentially complete, however, comparison of computed results with test data has not been accomplished.

PLANS FOR NEXT QUARTER

It is anticipated that evaluation of entrainment from test section six, shown in Figure I, will be completed in the next quarter.

Work on computer programming as described in the Analysis of Progress will continue however it is anticipated that this work will not be completed during the next quarter.

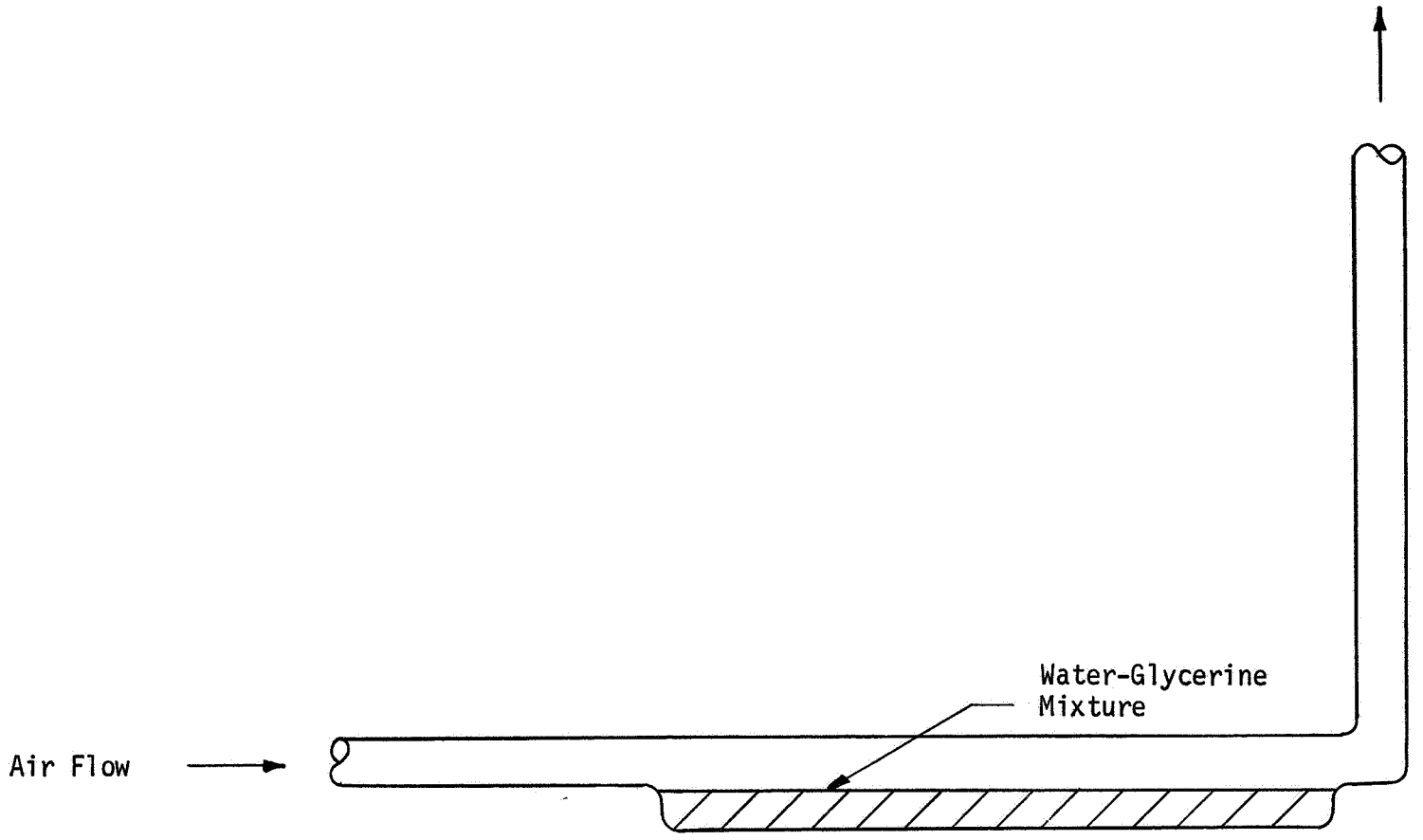

Figure I. Schematic Diagram of Test Section Six